

### REMARKS

Claims 1-13 and 15 were pending in this application. Claims 1-7, 9-13 and 15 have been amended. Claims 8 and 14 have been canceled. No new matter has been added.

### ARGUMENTS

Reconsideration in view of the following remarks and entry of the foregoing amendments are respectfully requested.

The Examiner has objected to the drawings on the grounds that they fail to comply with 37 CFR 1.84(p)(5) because they include reference characters not mentioned in the description. In response, Applicant has amended the specification to mention the corresponding reference characters.

Claims 1-7, 9-13 and 15 have been amended in view of the Office Action and to better define what Applicant considers his invention, as fully supported by an enabling disclosure. In this regard, Claim 1 now recites a module for providing in a Mobile Virtual Private network mobility for a remotely connecting node moving between an external network and an internal network, the module comprising a mobile agent device positioned at the edge of the internal network, the mobile agent adapted for: a. termination of a Mobile IP tunnel from the remotely connecting Mobile Node; b. termination of an IPSec VPN tunnel from the remotely connecting Mobile Node, the IPSec VPN tunnel used for tunnelling to the mobile agent traffic intended for a destination node within the internal network; c. dynamic selection of an Internal Mobile IP Home Agent based on user authentication, wherein the mobile agent stores in a mapping table a traffic encapsulation type used for routing traffic from the mobile agent to the Internal Mobile IP Home Agent; d. if no traffic encapsulation type is set in the mapping table, direct routing of the traffic from the mobile agent towards the destination node, and otherwise, if a traffic encapsulation type is set in the mapping table, tunneling of the traffic between the mobile agent and the selected Internal Mobile IP Home Agent prior to routing of the traffic from the selected Internal Mobile IP Home Agent towards the destination node; and e. provision of extended authentication, after Mobile IP connection establishment, and during the VPN negotiation phase, based on extra user

credentials or a one-time-password mechanism. The claims have also been amended as suggested by the Examiner in order to overcome informalities. No new matter has been entered by the foregoing amendment. Indeed, support for the amendments can be found, for example, in the claims as filed and at paragraphs [0034] lines 27 to 29, [0035] lines 14 to 15, [0036] page 9, lines 1 to 4, [0039] lines 1 to 10, and [0041] to [0044] of the specification as filed.

#### **REJECTION UNDER 35 U.S.C. § 101**

Claims 1-13 and 15 have been rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter by failing to be a process, machine, manufacture, or composition of matter. Applicant respectfully submits that Claim 1 as amended overcomes the rejection in view of the following argument.

According to the Supreme Court in *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008): “A claimed process is surely patent-eligible under §101 if: (1) it is tied to a particular machine or apparatus...”. Applicant respectfully submits that the processes performed in Claim 1 as amended are tied to an apparatus thus satisfying the machine-or-transformation test of *In re Bilski* as cited herein above. Accordingly, Applicant submits that Claim 1 as amended is directed to statutory subject matter under 35 U.S.C. § 101 and is allowable. Its dependent claims, which recite yet further distinguishing features, are also patentable and require no further discussion herein.

#### **REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 1-13 and 15 have been rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant respectfully submits that the claims as amended overcome the rejection.

#### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1, 3-5, 8 have been rejected as being anticipated by U.S. Patent Publication No. 2004/0120295 by Liu et al. under 35 U.S.C. § 102. Applicant respectfully submits that amended Claim 1 overcomes the rejection in view of the following argument.

Liu et al. teaches a system and method for providing a secure network path through an inner and outer firewall pair (106, 108) between a mobile node (120) on a foreign network (130) and a corresponding node (110) on a home network (114). A mobile IP proxy (102) is provided between the mobile node and a VPN gateway (104) inside the firewalls. The mobile IP proxy acts as a surrogate home agent to the mobile node and as a surrogate mobile node to a home agent residing on the home network. A home agent (112) may be provided to serve as a router in the home subnet of the mobile node, directing traffic to mobile node when mobile node is located outside of its home subnet.

However, Applicant respectfully submits that Liu et al. fails to teach or suggest a mobile agent that stores in a mapping table a traffic encapsulation type used for routing traffic from the mobile agent to the Internal Mobile IP Home Agent, as is recited at amended Claim 1. Applicant further submits that Liu et al. fails to teach or suggest, if no traffic encapsulation type is set in the mapping table, direct routing of the traffic from the mobile agent towards the destination node, and otherwise, if a traffic encapsulation type is set in the mapping table, tunneling of the traffic between the mobile agent and the selected Internal Mobile IP Home Agent prior to routing of the traffic from the selected Internal Mobile IP Home Agent towards the destination node, as is recited at amended Claim 1.

Indeed, although Liu et al. teaches tunnelling traffic from the Home Agent towards the VPN gateway and MIP proxy in order to route network packets intercepted from a corresponding node and destined for the remote mobile node, there is no storage by the VPN gateway of a traffic encapsulation type used for routing traffic from the VPN gateway. As such, the traffic is routed "directly" without tunnelling between the VPN gateway and the Home Agent (see, for example, paragraph [0051] of Liu et al.: "The VPN gateway decapsulates the IPsec packet (block 465). The VPN gateway then sends the data to the corresponding node directly (block 470; FIG. 1 path 8)."). Thus, Applicant submits that in Liu et al., routing of traffic to the corresponding node is not based on a traffic encapsulation type that would be stored at the VPN gateway, unlike the present invention recited at amended Claim 1. Accordingly, there is no teaching of tunnelling the traffic from the VPN gateway if a traffic encapsulation type is set in the mapping table. Instead, a tunnel is only established when data is to be

routed from the corresponding node to the remotely connected mobile node (see, for example, paragraph [0034]: "...the home agent 112 establishes an IPSec SA with VPN gateway 104 and applies the SA to all network packets that it intercepts from corresponding nodes on home network that are destined for permanent home network address of mobile node 120." and paragraph [0046]: "...the home agent tunnel the packet to the VPN gateway, typically via IPSec. ... Next, the home agent tunnels the packet using mobile IP to the MIP proxy." of Liu et al.). Nowhere is there a teaching of establishing a tunnel between the VPN gateway and the Home agent when routing is to be performed from the remotely connected mobile node towards the corresponding node and there is only a teaching of directly routing the traffic towards the corresponding node regardless of the encapsulation type of the traffic.

In addition, Applicant submits that Liu et al. fails to teach or suggest a mobile agent device positioned at the edge of the internal network, unlike the present invention recited at amended Claim 1. Indeed, as can be seen for example from Figures 1A to 1D of Liu et al., the MIP proxy and VPN gateway are positioned outside of the home network 114 within a subnetwork or Demilitarized Zone (160) preferably formed using at least one firewall (106 or 108) (see, for example, paragraphs [0025] and [0026] of Liu et al.).

In light of the above, Applicant respectfully submits that Liu et al. fails to teach or suggest all the elements of the present invention, as recited at amended Claim 1. Applicant thus submits that independent Claim 1 as amended is neither anticipated nor obvious in view of Liu et al. and is an allowable claim. As all the remaining objected claims depend from an allowable claim, Applicant submits that they, too, are allowable claims and require no further discussion herein.

#### **REJECTION UNDER 35 U.S.C. § 103**

Claims 2 and 12 have been rejected as being obvious over Liu et al. in view of U.S. Patent Publication Number 2002/0066036 by Makineni et al. under 35 U.S.C. § 103. Claim 13 has also been rejected as being obvious over Liu et al. in view of U.S. Patent Publication Number 2004/0106393 by Chowdhury et al. under 35 U.S.C. § 103. In addition, Claims 6, 7, 9, 10, 11, 15 have been rejected as being obvious over Liu et al. in view of U.S. Patent Publication

Number 2003/0224788 by Leung et al. under 35 U.S.C. § 103. Applicant respectfully submits that amended Claim 1 overcomes the rejection in view of the arguments provided herein.

Makineni et al. teaches a system and method for maintaining secure communications between a home network and a mobile client when the client roams outside of the home network to a new location. The client, after establishing a new IP address for its new location, sends a message identifying and registering its new address to a relay server which may include a Foreign Agent for communicating with a home server. The relay server further authenticates the client's message prior to encapsulation and transmission thereof to the home server.

Chowdhury et al. teaches a method of controlling access to a prepaid packet data communication service from a prepaid client. Time- and volume-based accounting are performed for packet data service.

Leung et al. teaches a method and apparatus for registering a mobile node with a home agent using a Mobile IP proxy to inform the mobile node of whether the mobile node is in an internal network or a remote network. IP-in-IP tunnelling and IP-in-UDP tunnelling may be used for transferring traffic.

However, Applicant respectfully submits that none of the references, taken alone or in combination, teach or suggest a module comprising a mobile agent device positioned at the edge of the internal network and which stores in a mapping table a traffic encapsulation type used for routing traffic from the mobile agent to the Internal Mobile IP Home Agent, as is recited at amended Claim 1. Applicant further submits that none of the references, taken alone or in combination, teach or suggest, if no traffic encapsulation type is set in the mapping table, direct routing of the traffic from the mobile agent towards the destination node, and otherwise, if a traffic encapsulation type is set in the mapping table, tunneling of the traffic between the mobile agent and the selected Internal Mobile IP Home Agent prior to routing of the traffic from the selected Internal Mobile IP Home Agent towards the destination node, as is recited at amended Claim 1. Accordingly, Applicant submits that it would not be obvious to modify the teachings of Liu et al. with those of Makineni et al., Chowdhury et al., or Leung et al. to arrive at the present invention recited at amended Claim 1. Thus amended Claim 1 is not obvious in view of the prior

art and is patentable. Its dependent claims, which recite yet further distinguishing features, are also patentable and require no further discussion herein.

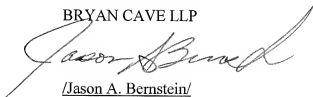
The foregoing is believed to represent a full response to the Office Action.

### CONCLUSION

Applicant submits that the present application is in condition for allowance and respectfully requests such action. If the Examiner has any questions that can be answered by telephone, please contact the undersigned attorney of record at the telephone number listed below.

Respectfully submitted,

BRYAN CAVE LLP

A handwritten signature in dark ink, appearing to read "Jason A. Bernstein", is written over the printed name.

/Jason A. Bernstein/

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